

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) An alcohol concentration detecting apparatus in which an alcohol concentration in ~~the liquid~~ a liquid to be inspected is detected by introducing ~~a liquid~~ the liquid to be inspected between electrodes of an alcohol concentration detecting sensor and by measuring a change in a specific inductive capacity of the liquid to be inspected between the electrodes with an oscillation frequency, comprising:

an alcohol concentration detecting apparatus body;

a first passage formed in the alcohol concentration detecting apparatus body and connected with an inspected liquid input port;

a second passage formed in the alcohol concentration detecting apparatus body and connected with an inspected liquid discharge port;

an alcohol content detecting chamber formed in the alcohol concentration detecting apparatus body and provided between the first passage and the second passage; and

wherein the alcohol concentration detecting sensor, wherein the alcohol concentration detecting sensor is provided so that a region between the electrodes thereof is located in the alcohol content detecting chamber and wherein the alcohol concentration detecting sensor comprises an alcohol concentration detecting sensor body including a base material resin film, an electrode wiring pattern formed on the base material resin film, and an insulating resin covering a surface of the electrode wiring pattern.

2. (Original) The alcohol concentration detecting apparatus according to claim 1, wherein the alcohol concentration detecting sensor body is stuck onto a substrate.

3. (Previously Presented) The alcohol concentration detecting apparatus according to claim 1, wherein the electrode wiring pattern is obtained by selectively etching a conductive metallic foil laminated on one of surfaces of the base material resin film, thereby forming a wiring pattern taking a predetermined shape.

4. (Previously Presented) The alcohol concentration detecting apparatus according to claim 1, wherein the electrode wiring pattern has such a shape that positive and negative electrodes which are comb-toothed are alternately intricate.

5. (Currently Amended) An alcohol concentration detecting apparatus in which an alcohol concentration in ~~the liquid~~ a liquid to be inspected is detected by introducing ~~a liquid~~ the liquid to be inspected between electrodes of an alcohol concentration detecting sensor and by measuring a change in a specific inductive capacity of the liquid to be inspected between the electrodes with an oscillation frequency, comprising:

an alcohol concentration detecting sensor body;

a first passage formed in the alcohol concentration detecting apparatus body and connected with an inspected liquid inlet port;

a second passage formed in the alcohol concentration detecting apparatus body and connected with an inspected liquid discharge port;

an alcohol content detecting chamber formed in the alcohol concentration detecting apparatus body and provided between the first passage and the second passage; and

wherein the alcohol concentration detecting sensor, wherein the alcohol concentration detecting sensor is provided so that a region between the electrodes thereof is located in the alcohol content detecting chamber and wherein the alcohol concentration detecting sensor comprises a substrate, an electrode wiring pattern formed on the substrate, and an insulating coat covering a surface of the electrode wiring pattern.

6. (Previously Presented) The alcohol concentration detecting apparatus according to claim 5, wherein the electrode wiring pattern is obtained by selectively

etching a conductive metallic thin film formed on one of surfaces of the substrate by sputtering, thereby forming a wiring pattern taking a predetermined shape.

7. (Previously Presented) The alcohol concentration detecting apparatus according to claim 5, wherein the insulating coat is formed by chemical vapor deposition (CVD).

8. (Previously Presented) The alcohol concentration detecting apparatus according to claim 5, wherein the electrode wiring pattern has such a shape that positive and negative electrodes which are comb-toothed are alternately intricate.

9. (Currently Amended) An alcohol concentration detecting method of detecting an alcohol concentration in a liquid to be inspected by using the alcohol concentration detecting apparatus according to claim 1,

wherein the liquid to be inspected is introduced between the electrodes of the alcohol concentration detecting sensor through the inspected liquid inlet port and the first passage, and the liquid to be inspected stays temporarily in the alcohol content detecting chamber, and

an alcohol concentration in the liquid to be inspected is detected by introducing a liquid to be inspected between electrodes of an alcohol concentration detecting sensor and by measuring a change in a specific inductive capacity of the liquid to be inspected between the electrodes with an oscillation frequency by the alcohol concentration detecting sensor, and then the liquid to be inspected is discharged from the alcohol content detecting chamber through the second passage and the inspected liquid discharge port.

10. (Currently Amended) ~~An alcohol~~ The alcohol concentration detecting method according to claim 9, wherein the liquid to be inspected is a gasoline containing alcohol.

11. (Currently Amended) A method of manufacturing ~~an alcohol~~ the alcohol concentration detecting sensor according to claim 1, comprising:

a conductive metallic foil sticking step of sticking a conductive metallic foil onto one of surfaces of a base material resin film;

a photoresist applying step of applying a photoresist onto a whole upper surface of the conductive metallic foil;

a photoresist exposing step of exposing the photoresist to take a desirable desired electrode wiring pattern shape by using a photoresist mask;

a photoresist dissolving and removing step of dissolving and removing the exposed photoresist portion with a developing solution;

an etching step of etching and removing a conductive metallic foil portion which is not covered with the photoresist, with an etchant;

a photoresist dissolving and removing step of dissolving and removing the photoresist; and

an insulating resin applying step of applying an insulating resin onto the surface from which the photoresist is removed, thereby obtaining an alcohol concentration detecting sensor body.

Claims 12-15. (Canceled).

16. (Previously Presented) The method of manufacturing an alcohol concentration detecting sensor according to claim 11, wherein the electrode wiring pattern has such a shape that positive and negative electrodes which are comb-toothed are alternately intricate.

17. (Currently Amended) A method of manufacturing ~~an alcohol~~ the alcohol concentration detecting sensor according to claim 5, comprising:

a conductive metallic thin film forming step of forming a conductive metallic thin film on one of surfaces of a substrate by sputtering;

a photoresist applying step of applying a photoresist onto a whole upper surface of the conductive metallic thin film;

a photoresist exposing step of exposing the photoresist to take a desirable desired electrode wiring pattern shape by using a photoresist mask;

a photoresist dissolving and removing step of dissolving and removing

the exposed photoresist portion with a developing solution;

an etching step of dry etching and removing a conductive metallic thin film portion which is not covered with the photoresist;

a photoresist dissolving and removing step of dissolving and removing the photoresist; and

an insulating coat forming step of forming an insulating coat on a surface of the electrode wiring pattern from which the photoresist is removed, by chemical vapor deposition (~~CVD~~), (CVD).

18. (Currently Amended) The method of manufacturing ~~an alcohol~~ the alcohol concentration detecting sensor according to claim 17, wherein the substrate is constituted by at least one selected from ceramics, glass and a resin substrate.

19. (Currently Amended) The method of manufacturing ~~an alcohol~~ the alcohol concentration detecting sensor according to claim 17, wherein the conductive metallic thin film is constituted by at least one selected from platinum, nickel, copper and titanium.

20. (Currently Amended) The method of manufacturing ~~an alcohol~~ the alcohol concentration detecting sensor according to claim 17, wherein the insulating coat is constituted by at least one minute insulating coat selected from SiO₂, Al₂O₃ and the like.

Claim 21. (Canceled).

22. (New) The alcohol concentration detecting apparatus according to claim 1, wherein the alcohol concentration detecting apparatus introduces the liquid to be inspected between electrodes of an alcohol concentration detecting sensor through the inspected liquid inlet port and the first passage, and then holds the liquid to be inspected temporarily in the alcohol content detecting chamber, and
detects an alcohol concentration in the liquid to be inspected by measuring a change in a specific inductive capacity of the liquid to be inspected

between the electrodes with an oscillation frequency by the alcohol concentration detecting sensor, and discharges the liquid to be inspected from the alcohol content detecting chamber through the second passage and the inspected discharge port.

23. (New) The alcohol concentration detecting apparatus according to claim 5, wherein the alcohol concentration detecting apparatus introduces the liquid to be inspected between electrodes of an alcohol concentration detecting sensor through the inspected liquid inlet port and the first passage, and then holds the liquid to be inspected temporarily in the alcohol content detecting chamber, and detects an alcohol concentration in the liquid to be inspected by measuring a change in a specific inductive capacity of the liquid to be inspected between the electrodes with an oscillation frequency by the alcohol concentration detecting sensor, and discharges the liquid to be inspected from the alcohol content detecting chamber through the second passage and the inspected discharge port.